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ABSTRACT

Based on five working papers developed as part of the Program of Studies in Nonformal Education at Michigan State University, this monograph suggests a conceptual framework for analysis of rural development and nonformal education and the relationship which exists between them. The four sections of this monograph are titled and subtitled as follows: (1) Conceptions of Rural Development (Functions, Development Cycle, Ecosystem Flow, and Power); (2) Education as an Instrument for Rural Development within the Rural Social System (General Nonformal Education and Internal Analysis); (3) Education as an Instrument for Rural Development--Approaches from the Outside (Systems Model, Definition of Concepts, Linkages and Transactions Model, Transactions and Development); (4) Conclusions (large-size, rapid--usually energy intensive and capital intensive approaches to development have not been successful; when social, economic, and political power are concentrated in the central cities, or in the hands of a few rural exploiters, rural development does not occur; packages of "modern" technology, even when supported by education, credit, and marketing arrangements, have been disappointing; unless the impetus comes from within the rural community, perhaps stimulated from outside, but controlled from inside, change will be minor; nonformal education is likely to prove a necessary component in any change strategy. (JC)

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NON-FORMAL EDUCATION AND RURAL DEVELOPMENT

Michigan State University, East Lansing

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NON-FORMAL EDUCATION AND RURAL DEVELOPMENT

A monograph based on five working papers developed as part of the Program of Studies in Non-Formal Education -- Michigan State University

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FOREWORD

"What then can non-formal education do for rural development? It can bring the power of knowledge. It can facilitate communication among rural families and between rural villages. It can bring about a shared awareness which is associated with a convergence of interests; and it can lead to organization -- and to political power."

This quotation, one of the conclusions of this perceptive monograph on Non-Formal Education and Rural Development, draws attention to the capability of this mode of education to change lives for the better among the poor in marginal rural areas. Indeed, if education is to be an effective tool of development among the rural poor it must be the kind that can deal with human needs at the level of subsistance and survival.

Non-formal education is well suited to this task. Free of the usual, and frequently necessary, requirements of formal education like admission requirements and selection, pre-equisites and degrees, non-formal education can speak directly to the basic needs of people in terms of food, nutrition, health, and community welfare.

In efforts like these, non-formal education can also extend the effectiveness of formal education. As the authors of this monograph point out, education aids rural development both from within the rural social system and without. From the outside formal education generates vital knowledge and research relevant to rural development.

It is uniquely suited to accomplish these intellectual functions. It is not so well suited to applying knowledge and research to the many points of need in underdeveloped rural areas.

That is where non-formal education becomes useful. While it is not as uniquely suited to generating new knowledge as is formal education, non-formal education does have the capacity to carry useful knowledge to poor people where it can make a difference. Thus formal and non-formal education are not antithetical in rural development. To the contrary, they are essential counter-parts, each with its own unique contribution to make.

The authors of this monograph develop useful perspectives both on the process of rural development and on the special role of non-formal education in it. And it gives me pleasure to add this monograph to the already impressive list of publications in the Michigan State University Program of Studies in Non-Formal Education.

Cole S. Brembeck, Director
Institute for International
Studies in Education
Michigan State University

January, 1977

Introduction

Rural development in this paper refers to improving the lot of hundreds of thousands of rural people in Asia, Africa and Latin America. These people are found in families who live in small isolated villages or move about in a small nomadic kinship cluster, and who produce the food they eat and the clothing they wear, and who live close to the margin of survival.

This particular monograph has been extracted from five separate working papers which the authors developed during 1975-76. Their purpose was to prepare the way for an inter-continental comparative field research activity. The proposed study includes an attempt to identify several variables which are general characteristics of all social systems, and which permit classification of those which may be considered underdeveloped, appropriately developed, and overdeveloped.

With focus on those which tend to be underdeveloped, the goal is to test certain hypotheses regarding the process of change. These, in turn, might be useful in the development and implementation of strategies for change. Although such strategies have economic, political, social, cultural and other aspects, the central concern of the study is learning--non-formal education and formal education--communication of

all sorts--phenomena which result in the development of human capital.

From one perspective, these changes have to do with productivity, with supply and marketing, with governance, personal maintenance, and systems for delivery of health care and learning. In another sense, desired change is a result of increased power in rural social systems--power with respect to other outside systems. Increased power, in turn, comes from increased self-reliance and increased influence on the larger social system derived from the convergence of interests within the rural social system and from increased effectiveness of external transactions. The convergence of interests within rural social systems is heavily dependent on increased internal control of transactions within the social system. Since the various types of learning, and particularly non-formal education, can be strategic means to both increased effectiveness of internal transactions and increased internal control of external transactions, strategies may be developed for enhancing desired change among the rural poor through appropriate use of non-formal education.

There are both horizontal and vertical dimensions to life in a rural social system and the extent of differentiation in each direction is a critical indicator of development. Our general hypothesis is that energy conversion is related

to both horizontal differentiation and vertical differentiation.

The present work grows out of a lifetime of participation in education among rural people, formal and non-formal education, in Asia and Africa, as well as in North America. The particular study which stimulated this paper has received partial financial support from the Program of Studies in Non-Formal Education at Michigan State University which, in turn, has been supported by the U.S. Agency for International Development.

Of particular relevance are several publications from that Program, including Toward a Strategy of International Interaction in Non-Formal Education[1] and such other works as: Russell Kleis, Case Studies in Non-Formal Education;[2] Marvin Grandstaff, Alternatives in Education: A Summary of Research and Analysis on the Concept of Non-Formal Education;[3] George H. Axinn and William J. Kieffer, Modes of Intervention;[4] Cole S. Brembeck, The Strategic Uses of Comparative Learning Environments.[5]

Julius Nyerere of Tanzania[6] has described the purpose of education as: "to prepare young people to live in and serve the society, and to transmit the knowledge, skills, and values and attitudes of the society. Whenever education fails in any of these fields, then the society falters in its progress, or there is social unrest as people find that their education

has prepared them for a future which is not open to them."

The three sections of this monograph which follow suggest a conceptual framework for analysis of both rural development and non-formal education, and then of the relationships between them. First, the phenomena are described. The next section examines the function of education within the rural social system, and is followed by an analysis of educational approaches from outside the rural social system as an instrument for change within. This is followed by some brief conclusions.

CONCEPTIONS OF RURAL DEVELOPMENT

1. Functions

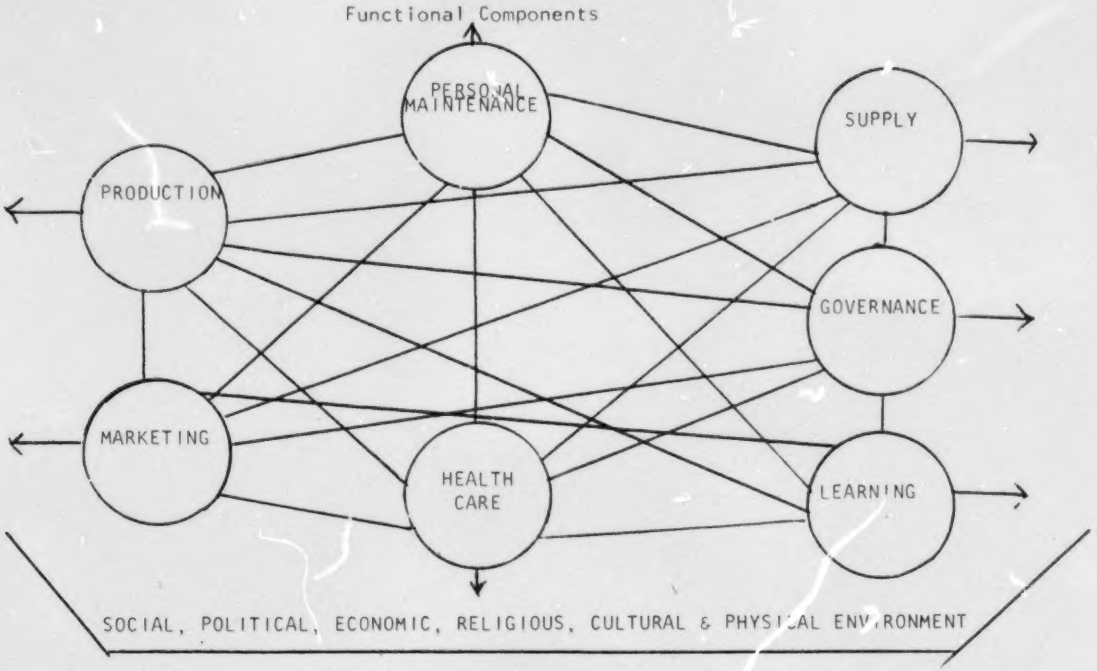
Human groups which live in remote places, and which tend to be small groups in relative isolation from each other and from larger groups, may be labeled as rural social systems. These systems may be described and analyzed according to their functional components. A typical rural social system is characterized here as having seven functional components, related to each other through a linkage infrastructure, and all set into a social, political, economic, religious, cultural, and physical environment.

The seven functions include supply, production, marketing, personal maintenance, education, research, health care delivery, and governance (See Figure 1). All rural economic, social and cultural activities may be identified as belonging to one or more of these functional categories.[7]

Supply Function

The end of the supply function is to provide the production function with its inputs. The means of this function include storage, exchange, and transportation of such inputs, as (for agricultural production) seed, feeds, fertilizer, and credit; and for other production, the appropriate raw materials.

FIGURE 1
THE RURAL SOCIAL SYSTEM IN ITS ENVIRONMENT



Rural people tend to rely directly on the physical environment for their "supply" of the elements essential to their productivity. Much activity involves the location or acquisition of suitable farming, hunting and pasture land, and fishing and aquacultural waters. In an agricultural village, through involvement with supply, people learn about seed, feed, fertilizer, credit, tools, and land. They also learn about climatic conditions, soils, minerals, and the varieties of plants and animals which grow in the area. Learning activity regarding these elements may consist mostly of personal experiences with the regularities and accidents of nature.

As the rural social system becomes more specialized (differentiated), a higher proportion of supply elements come from outside systems.

Production Function

"Production" concerns manipulation of the supply elements to create items which can be marketed (including consumption). Activities vary to some extent cross-culturally, but generally include preparing fields, raising crops and animals, harvesting, cooking and processing food, drawing water and cleaning things, making clothes, decorations, tools, weapons, utensils and furniture, and building structures. Learning related to production may take place through repetition, guided practice,

observation, play, experiment, demonstration, discussion, personal explanation and various media. Rural people spend much of their time and energy in production activity.

The end of the production function is to create the goods which the system may use. The means of this function include combinations of such resources as land, labor, capital, and technology (including all the elements made available through the supply function) with energy.

Marketing Function

"Marketing" means the selection, movement and arrangement of produced goods for storage, trade or consumption. It also includes valuing goods, counting and bartering, bookkeeping, use of money when substituted for goods, and issuing credit to "customers."

The end for this function is to dispose of the output of the production function. The means for this function include direct consumption, as well as storage, exchange, transportation, and processing of the output of production.

Personal Maintenance Function

Individual consumption of produce is classified as "Personal Maintenance." The end of this function is to keep the individual's body operating within its cultural context. The means of this function include such activities as feeding one's self, bathing, putting on and taking off clothing,

grooming, participation in sleep, rest and recreation, and other similar activities.

Almost as important as satisfying these biological needs for personal maintenance are satisfying social and psychological needs through consumption and other activities. A wide variety of (cultural) activities exist in any society (for example, speech, singing, dances, games, feasts, courtship, folklore, prayer, rituals, art and religious thought).

Health Care Delivery Function

The end of this function is to ensure the physiological (and psychological) well-being of the members of the system. The means of this function include dispensing of various substances and suggestions, as well as administration to the human anatomy. "Health care" among villagers includes prenatal care, nursing infants, feeding small children, keeping them clean, comfortable, and communicating with them, as well as repairing damage, applying medicine and feeding the injured, sick and feeble. Comforting the grieved and counseling the troubled are also included, along with activities for social health, such as treatment or punishment for anti-social behavior and such "public health" concerns as clean water storage, food preservation, public sanitation, garbage handling, and latrines.

Governance Function

People employ patterns and methods of cooperation and authority in accomplishing their purposes as groups. They usually learn the exercise and acceptance of authority, cooperative interaction and self-control for each activity in supply, production, marketing, personal maintenance and health care at the same time that they learn the techniques of the activity. This learning tends to take place within the family and the extended kin group.

The end of this function is the maintenance of appropriate relationships among the components and between the system and other systems. The means of this function are through control or regulation of the flow of transactions via the linkages within the system and between the system and other systems.

Learning Function

The human being is a learning organism. Some learning is highly structured and formal. Other learning is incidental and informal or non-formal. Some involves one or more persons helping others to learn (education), while other learning is deliberately designed and carried out by the learner.

The end of this function is to ensure that each new generation understands how to do those things which need to be done in performing all of the other functions, and also to facilitate transactions (communication) among the various

functional components. As social systems become more specialized, the learning function develops ends of both functional (horizontal) and status (vertical) differentiation. The means of this function are speech, hearing, and the other senses, facilitated by such instruments as schools, newspapers, radio, meetings, dance, drama, song, books, exhibits, telephone, drums, and a multitude of other channels of communication.

Functions in Context

Significant change in rural society involves not only learning new skills related to supply, production, marketing, personal maintenance, governance, and health care, but frequently the alterations of cultural norms and learning different patterns of cooperation or decision-making. Thus, interactions among these components on the linkage network are at once a constraint to change in the system, facilitators of change, and the measure of change.

A change in any component affects all other components and all linkages. Most changes are normally resisted by all aspects of system. The learning component plays a unique role as facilitator of transactions on all linkages, and serves to enhance the frequency, fidelity, and capacity of the linkages.

Teaching in rural social systems can be characterized as a kind of "grant" to the extent that the "teacher," usually

an elder kinsman or neighbor, intentionally provides labor and information and confers attention on the younger or less experienced.[8] The grant may be considered "conditional," because the kinsman or neighbor expects reciprocity. He (she) receives in return at least deference, a signal of their status if not love, some kind of service, goods, or even money.[9] Reciprocity may be immediate, or occur after some delay; for example, when parents expect support from children in old age.

2. Development Cycle

Assuming that it is possible for humanity to come into some sort of equilibrium state with its environment, then it is conceivable that:

a. human groups which are under-utilizing the resources of their ecosystem in enhancing their own levels and styles of living may be considered to be underdeveloped:

b. human groups which are over-utilizing the resources of their ecosystem in enhancing their own levels and styles of living may be considered to be overdeveloped; and,

c. human groups which are in equilibrium with the resources of their ecosystem with respect to their own levels and styles of living, may be considered to be appropriately developed.

In the view of the authors of this paper, all social systems are in transition on what may be labeled a Development Cycle. They proceed, over time, from conditions of underdevelopment to balanced development to overdevelopment to balanced development to underdevelopment...and on and on.

Quantities of time involved vary greatly, and are related to type of energy conversion, extent of differentiation, and such cultural factors as religion.

The basic assumptions of this paper are illustrated in Figure 2. Key hypotheses of the larger study related to the Development Cycle are illustrated in Figure 3.

FIGURE 2

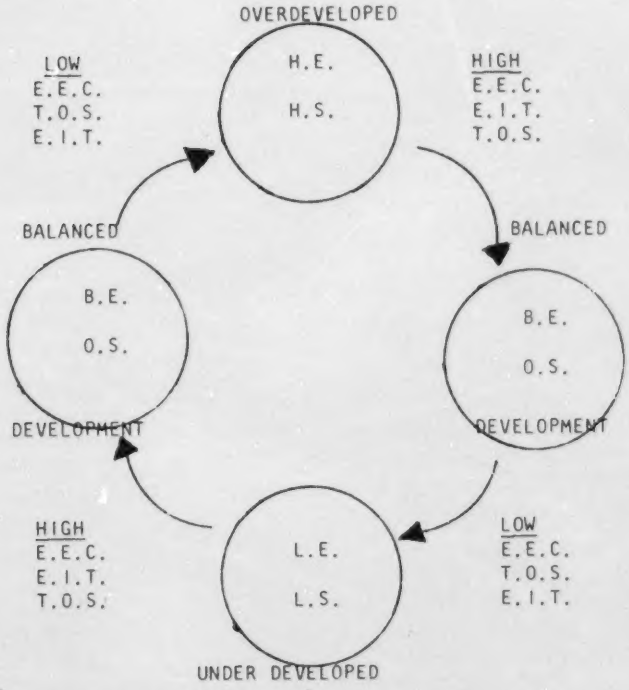
Basic Assumption of the Study: Energy Conversion and Differentiation Tend to Vary Together As Social Systems Are Being Compared

Number of Social Systems with

Number of Social Systems With	Differentiation: Low	Balanced	High
Low Energy Conversion	Medium	High	Medium
Balanced Energy Conversion	Medium	High	Medium
High Energy Conversion	Low	Medium	High

FIGURE 3

THE DEVELOPMENT CYCLE



H.E.=HIGH ENERGY USE
L.E.=LOW ENERGY USE
B.E.=BALANCED ENERGY USE
H.S.=HIGH SPECIALIZATION
L.S.=LOW SPECIALIZATION
O.S.=OPTIMUM SPECIALIZATION
E.I.T.=EFFICIENCY OF INTERNAL TRANSACTIONS

E.E.C.=EFFICIENCY OF ENERGY CONVERSION
T.O.S.=TRANSATIONS W/OUTSIDE SYSTEMS

= A RURAL SOCIAL SYSTEM

GHA-July 1975

3. Ecosystem Flow

Just as a static system conceptualization of rural life includes functional components, linked to each other, and balanced in that relationship, a dynamic conceptualization takes a flow perspective.

In this perspective, inputs flow into the rural family, and outputs flow out. The family itself consists of individual members, and either performs the seven functions mentioned in Section 1, above, or shares them with other families within the rural social system.

The family is viewed as an intimate group of individuals who share the same near environment. This near environment contains information, and usually such other features as shelter, water, food storage, a waste disposal system, domestic animal maintenance, and such implements as a cooker, heater, light, and transportation.

The far environment, in which the near environment is set, and the existence of which is known to the families, includes the larger ecosystem. This larger milieu features social, political, economic, religious, and geophysical systems.

Inputs into the rural family include food, fuel, light, water, air, land, space, and information. These may be acquired through exchange with other families, inside or outside of the particular rural social system (the rural village), or they may be available to the rural family in the ecosystem

without need for exchange. Insuring the supply of inputs as needed is one of the typical functions of every rural family and every rural social system.

Outputs from each family unit may be classified as intermediate products or disposable products. The intermediate products are recycled to the family as inputs. The disposable products may be marketed to other families, inside or outside the particular rural social system, may be stored, or may be disposed of as waste.

Intermediate products include personal maintenance, health care, supply, governance (structural maintenance), production, marketing, and learning (information). The same categories may be used to describe disposable products, although disposable product is often limited to marketing, production, supply and information (learning).

Figure 4 is an attempt to illustrate these flow relationships of the rural family in its ecosystem.

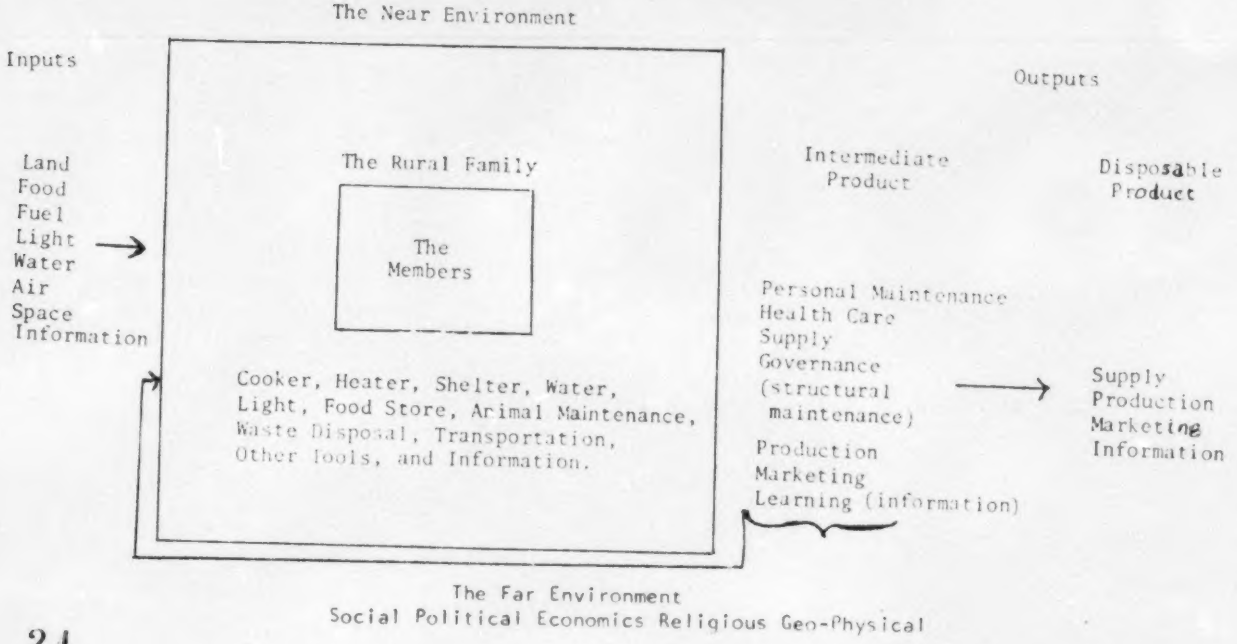
4. Power

The introduction to this monograph refers to the relationships between increased power in a rural social system and increased influence on the larger social system; between such power and convergence of interests within rural social systems, and between learning and power phenomena.

Power refers to both authority and influence.[10] Of concern

FIGURE 4

The Rural Family in its Ecosystem (Flow Perspective)



here are economic power, social power, and political power, all of which are related to the conversion of energy. Since energy conversion (sometimes referred to as "horse power," but increasingly as B.T.U.'s/hr., or K.U.A.'s, or kilocalories per unit of time) tends to be controlled by political, economic, and social power, the relationships among these categories are a concern of this paper.

A general assumption is that significant changes in social systems do not occur without changes in power relationships. For instance, rural development tends to occur only when there are changes in the balance of political power and economic power between rural social systems and the central cities of their larger ecosystem.

Further, it is assumed that functional differentiation (horizontal) is usually accompanied by power differentiation (vertical). Just as each rural social system features a variety of functions (roles), so it also includes several levels of power (status, prestige). The higher the level of an individual, family, or rural social system, the higher its authority or influence over those below.

Thus, as a rural social system moves from one position in the Development Cycle (referred to in Section 3, above) to another position, the change is accompanied by a change in its vertical, or power position, with regard to other rural social systems or with outside systems. Similarly, inside a rural

social system, individuals are found with varying amounts of social, political, and economic power. Thus, the situation of the so-called "rural poor" cannot change without changes in the "rural rich." Since there tends to be pluralism of interest in every social system, educational program development is often fraught with conflict resolution. However, those who facilitate learning can also facilitate convergence of interest, and the beginnings of political power.

With that promising thought, the next two sections of this paper focus on education as an instrument for rural development--first from within the rural social system, and second from outside.

EDUCATION AS AN INSTRUMENT FOR RURAL DEVELOPMENT--WITHIN THE RURAL SOCIAL SYSTEM

1. General Non-Formal Education

In one study of non-formal education at MSU, Kleis, et al..[11] state: "Generally defined, education is the sum of all the experiences through which a person or a people come to know what they know. Experience is encounter, direct or mediated, between a person and his environment. Encounter educes change (learning) in the person; and it produces change (development) in the environment. Learning yields knowledge in the form of cognition (perceived, interpreted and retained information), competence (intellective and/or motive skill) and volition (value, attitude, appreciation or feeling based preferences for acting or reacting). What comes to be known may be intended or unintended and it may be true or untrue; it is simply what is taken (believed) to be true."

FIGURE 5
Types of Education Systems

"Learner" Perspective \ "Teacher" Perspective	Intended	Unintended
Intended	A Formal (in-school) Non-formal (out-of-school)	C Non-formal
Unintended	B Non-formal	D In-formal

The most practical base the authors have been able to develop for categorizing education is that of the intent of the learners and teachers. For any particular educational activity, if the learners are involved because they intend to learn something, and if the teachers are involved because they intend to help the learners learn something, then we would call it formal or non-formal education. Formal education would refer to learning in the structured school setting of any particular country. Non-formal education would be learning in any organized setting which took place apart from the specific school program. If either the teachers or the learners are participating for some other reason, other than the intention of teaching or learning, then we also call it non-formal education. If neither the teachers nor the learners are involved by intent, then we call it informal.

"As suggested by the senior author elsewhere, the paradigm (Figure 5) allows us to make clear divisions between the types of contexts in which education occurs. Box D encompasses all instances in which learnings are transacted by chance. An example of this context is stubbing one's toe on a rock. The rock is the teacher, the individual involved is the learner, and the learnings can include 'rock plus impact of toe equal pain.' Box B includes all situations in which intended organized learnings are transacted by chance. For instance, one awakens an hour early without realizing it, turns on the

radio expecting news but instead hears a farm program dealing with the application of fertilizer. The teacher is the individual and/or system responsible for the broadcasting of the program, the learner is the early riser and the learning is fertilizer application. Box C represents all occurrences in which unorganized learnings are transacted because of a learner's intent to experience them, for example, a scientist engaging in research. Box A encompasses all instances in which organized learnings are transacted because of a teacher's intent to dispense them and a learner's intent to acquire them; for example, a group of individuals enrolled in an adult literacy class." [11]

Using an African case as an illustration, Fajanan puts it as follows: "In Yoruba education philosophy, theology, polities, social theory and law, medicine, social psychology, birth and burial, all find themselves logically concentrated in a system so tight that to abstract one item from the whole is to paralyze the structure of the whole....

"The Yoruba traditional education used two (mainly) methods of education -- learning by imitations (awoks) (learning by doing), and through instruction (ifiye)....

"The instruction takes place in the form of riddles and folktales recounted in the evenings, and it stresses the values and moral ideas in the society. The folktales give a picture of the society's past. Symbols, personified objects and

animals speak to each new generation the ideas which the groups have found significant -- about health, home, agriculture, crafts, social and individual life....

"The Yorubas' education is utilitarian, designed, as it were, to make an individual useful to himself and his community at large...." [12]

Jomo Kenyatta, in a chapter on education among the Gikuyu of Kenya prior to the arrival of the Europeans, puts it this way:

"The Gikuyu education begins at the time of birth and ends with death. The parents take the responsibility of education of their children until they reach the stage of tribal education....

"The infants are taught the history and tradition of the family and class through the medium of lullabyes. Through these the child also begins learning correct manner of speech. Simple questions are also used to teach the child and test how much it has learned....

"The purpose of games are for serious business life and recreation. The father teaches him his own trade (e.g., farming, wood carving, blacksmithing, etc.) and mother does the same....

"Health care is taught early in life--they learn the taboos and useful items for healing purposes....

"The rising generation is trained in beliefs and customs

necessary to the self-maintenance of the tribe and inter-relation with the neighboring tribes. The fundamental needs of reproduction, extraction of food from the environment, and social solidarity are recognized and met. The first and most obvious principle of educational value in Gikuyu system of education is that the instruction is always applied to an individual concrete situation; behavior is taught in relation to some particular person....[13]

In an investigation of learning and its contribution to a "better life" for the rural poor, all the activities in the community may be considered as potential learning resources. Learning can be evaluated according to who controls the process and the nature and extent of transactions which occur. With a primary concern for household and community development, the consequences of the economic activities might be evaluated, as well as the effects of the various ways of learning skills and retaining knowledge. To understand the relevant phenomena, it helps to take into consideration different cultural beliefs, practices, expectations, attitudes, organization and leadership. These elements both affect and are affected by economic activities and learning habits.

2. Internal Analysis

Potentially, every individual, object and event in a community constitutes a learning resource for every member of the community. Practically, resources for learning any particular behavior by particular individuals will number far less than all the potentially available resources.

The primary resources for learning in rural villages are all the events associated with such activities as supply, production, marketing and the other functions described above. Rural people rely on food production for both sustenance and livelihood, for both energy and meaning of life, whether herding, hunting, gathering, fishing, or farming. Reference to such basic functional activities as learning resources assists in making cross-cultural comparisons.

In an attempt to describe actual learning which is taking place in the "typical rural social system," two assumptions are made. First, learning can be the primary function of a particular activity, or it can be the secondary function of that same activity. The next assumption is parallel. Teaching can be the primary function of a particular activity, or it can be a secondary function of that same activity.

Consistent with the general rationale of this paper, it is assumed that the "least developed" rural social system will feature the lowest degrees of specialization or

differentiation. Thus, learning is most likely to be a secondary function of some other activity which has, as its primary function, such aspects as production, personal maintenance, supply, marketing, etc.

Along the same line, it is assumed that teaching is most likely to be carried on as a secondary function of activities whose primary functions are production, marketing, supply, etc.

As social systems become more differentiated (more specialized and users of higher quantities of energy--more developed) it is anticipated that a larger proportion of the education which goes on is likely to be the primary function of the activities involved.

Other variables which are relevant include the extent of time invested, the extent of reciprocity, the rewards for learning and teaching, the primary and secondary functional relationships, the nature of control, sex roles and learning/teaching, and age roles and learning/teaching.

EDUCATION AS AN INSTRUMENT FOR RURAL DEVELOPMENT -- APPROACHES FROM THE OUTSIDE

To analyze the impact of various approaches to the rural social system from outside, focusing especially on educational approaches, a systems model has been constructed. In this model, schools and various types of non-formal education are included in the category of Rural Development Stimulation Systems.

1. Systems Model

Turning to the view of the rural social system in its larger setting--it is possible to distinguish five major aspects of the larger system. These could be described as follows:

a. The Rural Social System--including individuals, families, and clusters of families. Typically, these are called rural villages.

b. Rural Development Acquisition Systems--these are organizations of the people in the rural social system, ideally controlled by the people in the rural social system and designed to help them acquire what they need from, and interact with, the larger social system outside.

c. Rural Development Stimulation Systems--these are organizations of the outside world, designed to stimulate change and to interact with the rural social system.

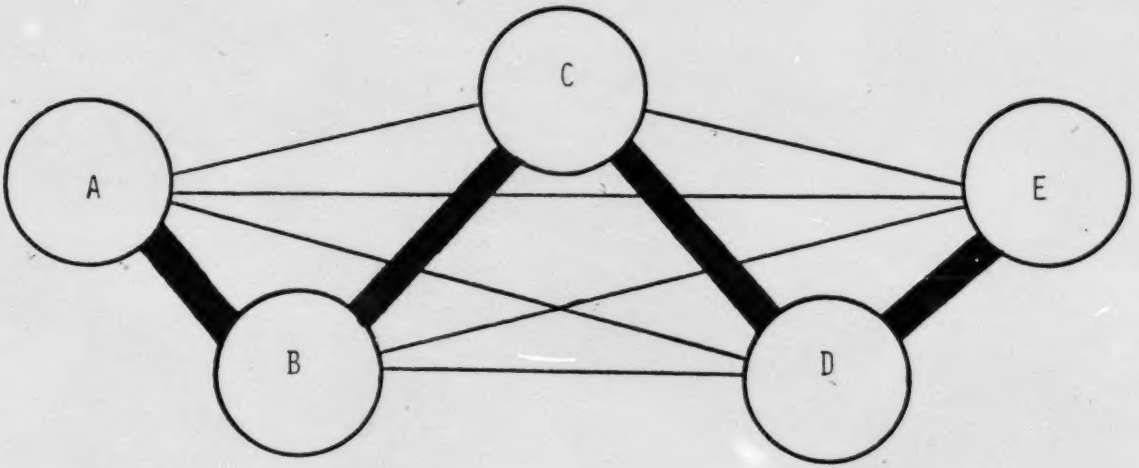
d. Agencies and Organizations of the Larger Social System--these include district, state, and national levels, and may be categorized as government units, public corporations, private firms, educational units, and health units. A strictly functional description can be made in terms of the functional category within the rural social system. Or, various functions can be grouped in one organization.

e. Agencies and Organizations of the Inter-system--these are the international (or inter-system) agencies and organizations which interact with the agencies and organizations of the social system being studied.

Three key interfaces relating directly to rural development are the interface between the Rural Social System and Rural Development Stimulation System, and the interface between the Rural Development Stimulation System and the Rural Development Acquisition System (See Figure 14).

FIGURE 14

CRITICAL LINKAGES IN THE LARGER SOCIAL SYSTEM
AFFECTING CHANGE IN RURAL SOCIAL SYSTEMS



A = RURAL SOCIAL SYSTEM

B = RURAL DEVELOPMENT ACQUISITION SYSTEM

C = RURAL DEVELOPMENT STIMULATION SYSTEM

D = AGENCIES AND ORGANIZATIONS OF LARGER SOCIAL SYSTEM

E = AGENCIES AND ORGANIZATIONS OF INTERNATIONAL INTERSYSTEM

For analysis of the relationships among these systems, concepts are defined next, linkages are categorized, and transactions on those linkages are discussed with respect to development.

2. Definition of Concepts

1. Transaction refers to the unit of learning in which one identifiable message is received. A transaction can also refer to an exchange of goods, energy, or money. Learning transactions may involve teachers and learners, or learners alone, informal, non-formal, or other types of education.
2. Linkages are defined as clusters of channels by means of which one component may interact with other components of the same or another system. It is an abstract relationship which manifests its function through the transactions flowing via the channels. It implies a psychological atmosphere created and fostered to permit and maintain collaboration, cooperation, and communication.
3. Channels are means through which transactions flow between two or more components of a system, or between a component and component(s) of other systems. Channels are the means which components utilize to implement and maintain the linkage(s)

which they establish between themselves. Channels may be categorized in a great variety of ways. The following is preliminary and suggestive:

A. Intimacy

1. Interpersonal - These are the type of channels where communications are made through word of mouth, directly from the source to the receiver.[16] Included are face-to-face, dance, small group activity, etc.

2. Impersonal - Mass media, e.g., radio, TV, newspapers, magazines, etc.[17]

B. Natural availability

1. Channels naturally provided, e.g., rivers, oceans, lakes, air, etc.

2. Man-made channels, e.g., vehicles, telephone, TV, radio, etc.

C. Primary/Secondary

1. Items whose primary perceived purpose is to facilitate transactions.

2. Items which are not intended for carrying out interactions, but whose secondary function can be communicative, or facilitating of exchange. These are items which may constitute some part of the transferred transactions through various

channels between various components. For example, a merchant may bring corn seed to a village which requires shorter time to grow and harvest. The merchant plays an important role in bringing a new idea to the village, but his primary perceived purpose is profit. He is, incidentally, a channel for communication.

D. Specialization

1. Channels which serve a particular linkage only.
2. Channels which serve more than one linkage.

E. Direction

1. Channels with uni-directional capacity (one-way passage) e.g., TV, radio, etc.
2. Channels with built-in feedback, e.g., telephone, inter-personal conversation.

F. Capacity

1. Channels which can carry a relatively small number of transactions per unit of time.
2. Channels which can carry a relatively large number of transactions per unit of time.

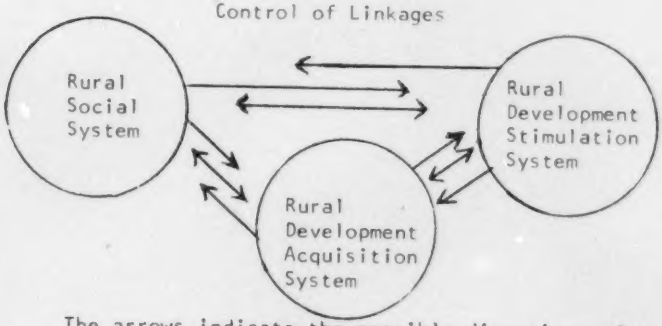
3. Types of Linkages Between Rural Social System and Rural Development Acquisition System and Rural Development Stimulation System

Linkages can be categorized according to the source and direction of control of channels and transactions. Some

channels and transactions are controlled by Rural Social Systems, some by Rural Development Acquisition Systems, others by Rural Development Stimulation Systems, and others by a combination of these. This is illustrated in Figure 15.

FIGURE 15

Control of Linkages



The arrows indicate the possible directions of the control.

Another way of identifying linkages may be according to the cost (energy, finance, time, and manpower) entailed in establishing, operating and maintaining them. Thus, they can be described in broad relative terms: (a) very costly, (b) moderately costly, and (c) very low cost.

Linkages may be typed by actual rate of flow of transactions that pass through channels. This includes the frequency of reception and frequency of sending.

It is also possible to distinguish linkages according to fidelity: their capability of transmitting goods and information with minimum change in the nature of that which

is transmitted. Some linkages have high fidelity and others have low fidelity.

The phenomena of social status is relevant to linkage. Linkages can be typed according to personal social status of individuals engaged in establishing and operating the transactions.[18]

Another approach to the study of linkages is to classify them as formal or informal. Formal linkages require formal agreement either in written contract form or verbal commitment. Informal linkages do not.

Linkages, like the channels of which they consist, may also be categorized according to capacity to carry goods and information. They may be grouped as having (a) large capacity, (b) medium capacity, and (c) small capacity. The capacity of a linkage is not necessarily equal to the sum of the capacities of the channels of which it is formed.

Linkages can also be classified according to the extent and quality of education (knowledge, skills, attitudes) required to benefit from the contribution to the transactions.

4. Transactions and Development

The concept of balanced development of human groups has been postulated earlier in this paper. The types of linkages which operate between the Rural Social Systems and outside systems are considered to be crucial.

It is also assumed that interaction by a rural social system with outside systems is related to internal change. Development of a rural social system depends on the transactions which flow through the channels of the linkages between the rural social system and outside systems.

Based on these assumptions, a series of hypotheses can be constructed relative to the transactions between a rural social system and outside systems.

a. As a rural social system moves from underdevelopment to balanced development the frequency of transactions with outside systems increases.

b. As a rural social system moves from underdevelopment to balanced development the perceived value received from transactions with outside systems increases.

c. As a rural social system moves from underdevelopment to balanced development the perceived cost of transactions with outside systems decreases.

d. As a rural social system moves from underdevelopment to balanced development the efficiency of transactions with outside systems increases.

e. As a rural social system moves from underdevelopment to balanced development the quantity of time invested in transactions with other systems increases.

f. As a rural social system moves from underdevelopment to balanced development the extend of internal control (within that system) of transactions with other systems increases.

CONCLUSIONS

What, then, can be concluded regarding non-formal education and rural development? Certainly, not as much as some have claimed, but it is hoped, much more than others allow.

If the assumptions put forth in the monograph hold up during field investigations, and if the hypotheses tend to be supported as empirical data are collected and analyzed, then the claim for non-formal education will be significant.

The world experience, especially in the past quarter century, has demonstrated that largescale outside interventions designed to achieve increased productivity in the rural villages of Asia, Africa, and Latin America have been less than successful. These generally feature the attempts of outsiders to reach production targets for agricultural commodities which are set in urban centers and are in the national or city interest. Viewing the world food situation in 1976, there seems to be consensus regarding the failure, both to achieve production goals and to improve the "quality of life" for those living in the countryside.

Study of these past twenty-five years suggests that assumptions regarding scale have been misleading. Large-size, rapid--usually energy intensive and capital intensive--approaches have not been successful. Perhaps "small is

beautiful," [19] and small-size, slow, low-energy, labor-intensive approaches are needed.

Power is critical. When social, economic, and political power are concentrated in the central cities, or in the hands of a few rural exploiters, rural development does not occur. Without a shift in both economic and political power to the countryside, positive change in rural social systems is unlikely.[20] To the extent that outsiders have poured resources into rural villages, significant change has been short-term at best. Packages of "modern" technology, even when supported by education, credit, and marketing arrangements, have been disappointing. Unless the impetus has been within the rural community--perhaps stimulated from outside, but controlled from inside--change has been minor.

However well-meaning those in the centers of power may have been, little change has occurred without decentralized program determination.

And finally, wherever individual greed has been allowed to dominate the market system, the will and the desire to coalesce rural power has not materialized. Without will-power at least, rural people have been unable to improve their terms of trade with the urban centers, and have achieved neither economic nor political power.[21]

Seen as one of many instruments, non-formal education is likely to prove to be a necessary activity, if rural social

systems are to be stimulated to change in directions desired by their members. Few would argue that non-formal education, by itself, provides the key to rural development.

What then can non-formal education do for rural development? It can bring the power of knowledge. It can facilitate communication among rural families and between rural villages. It can bring about the shared awareness which is associated with a convergence of interests; and it can lead to organization--and to political power.

Beyond that, non-formal education may bring the knowledge of rural social systems to rural development stimulation systems and to the agencies and organizations of the larger social system. Thus, they may discover what are appropriate economic stimulants and appropriate non-formal education.

The experience of the past is indicative. The conceptualizations have been inadequate. The purpose of this monograph has been to suggest some different, and perhaps more useful concepts--as aids to thinking and research, and perhaps as guides to action.

FOOTNOTES

1. George H. Axinn et al., Toward a Strategy of International Interaction in Non-Formal Education, Study Team Report, Program of Studies in Non-Formal Education, College of Education, Michigan State University, 1974.

2. Russell Kleis et al., Case Studies in Non-Formal Education, Study Team Report, Program of Studies in Non-Formal Education, College of Education, Michigan State University, 1974

3. Marvin Grandstaff, Alternatives in Education: A Summary View of Research and Analysis on the Concept of Non-Formal Education, Study Team Report, Program of Studies in Non-Formal Education, College of Education, Michigan State University, 1974

4. George H. Axinn and William J. Kieffer, "Modes of Intervention," Discussion Paper No. 3, Program of Studies in Non-Formal Education, College of Education, Michigan State University, 1973.

5. Cole S. Brembeck, "The Strategic Uses of Comparative Learning Environments," Discussion Paper No. 4, Program of Studies in Non-Formal Education, College of Education, Michigan State University, 1973.

6. Julius K. Nyerere, Education for Self-Reliance (Dar es Salaam: The Government Printer, 1967), p.2.

7. George H. Axinn and Sudhakar Thorat, Modernizing World Agriculture, A Comparative Study of Agricultural Extension Education Systems (New York: Praeger Publishers, 1972) p. 9.

8. Kenneth Boulding believes the family to be the largest component of the "grants economy" and labor the largest sector or type of grant. See Boulding's The Economy of Love and Fear, A Preface to Grants Economics (Belmont, California: Wadsworth Publishing Company, Inc., 1973) ;. 25, 30, 35.

9. Uriel G. Foa and Edna Foa in Societal States of the Mind (Springfield, Illinois: Charles C. Thomas, Publisher, 1974), classify categories of resource exchange as between love, goods, services, money, information and status.

10. For a full discussion of authority and influence, see Paul A. Miller, Community Health Action, A Study of Community Control (East Lansing: Michigan State University Press, 1953) p. 15-18.

11. Axinn, et al., op. cit., pp.8-10

12. A. Fajana, "Some Aspects of Yoruba Traditional Education," Odu, (Journal of African Studies) Vol. 3, No 1, July 1966, p. 16,22,26,27, Institute of African Studies, University of Ife, Nigeria.

13. Jomo Kenyatta, Facing Mount Kenya: The Tribal Life of the Cikuyu, Secker and Warburg, London, 1953, Chapter V, pp. 99-103, 105, 120.

14. George C. Homans, in The Human Group (New York: Harcourt, Brace & Co., 1950) p. 145 constructs a similar hypothesis, that, "a person of higher social rank than another originates interaction for the latter more often than he orginates interaction for himself.) Homans provides support for this assertion in subsequent discussion; p. 244-247, 278.

15. Miller, op. cit., pp. 15-18.

16. Everet M. Rogers, Modernization Among Peasants: The Impact of Communication (Holt, Rinehart, and Winston, Ind. Hy., 1969), pp. 124.

17. See George H. Axinn et al., Study Team Reports, Toward a Strategy of International Interaction in Non-Formal Education, Program of Studies in Non-Formal Education, Michigan State University, East Lansing, 1974, pp.32-33.

18. See a case study by S. A. Rahim, Communication and Personal Influence in an East Pakistan Village, Pakistan Academy for Rural Development, Comilla, East Pakistan, 1965, pp. 21-25.

19. E. F. Schumacher, Small is Beautiful, New York: Harper & Row, 1973).

20. Norman E. Borlaug, "Food and Fertilizer Are Needed Now," in Hunger, Politics, and Markets, Sartaj Agiz, ed. (New York: University Press, 1975), p. 17.

21. René Dumont, "The Biggest Famine in History Has Just Begun," in Hunger, Politics and Markets, Sartaj Aziz, ed. (New York: University Press, 1975), pp. 29-37.

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